

CLAIMS

What is claimed is:

1. An apparatus for determining the density of insulation in a cavity of a structure, comprising:
a sensor held in a substantially fixed position within the cavity of the structure and relative to the insulation for sensing force, which is used to determine density.
2. An apparatus for determining the density of insulation in a cavity of a structure, comprising:
a sensor for sensing force of insulation in a cavity of a structure; and
a fixture supporting the sensor, the fixture being structured and dimensioned to hold the sensor in a substantially fixed position relative to the insulation.
3. The apparatus of claim 2, wherein the sensor is adapted to be supported outside the cavity against the insulation and netting.
4. The apparatus of claim 2, wherein the fixture includes a plate having legs extending therefrom to engage framing members defining the cavity and to hold the plate a distance from the cavity, whereby the sensor does not extend into the cavity beyond a plane that is coplanar with inner sides of the framing members.
5. The apparatus of claim 2, wherein the sensor is a load cell.

6. The apparatus of claim 2, wherein the sensor is in the form of a force transducer.

7. The apparatus of claim 6, further comprising a contact plate, wherein the force transducer is adapted to measure force encountered by the contact plate when held against the insulation.

8. The apparatus of claim 2, wherein the sensor is in the form of a spring-force meter.

9. The apparatus of claim 2, wherein the sensor includes an air cup that is adapted to be pressed against a netting covering the insulation, and further wherein air, at a given pressure, is introduced into the air cup and air pressure in the air cup is measured via a gauge, the pressure in the air cup being directly related to density of the insulation.

10. A method for determining the density of loose-fill, blown-in-place insulation in a cavity defined between framing members of a structure, the method comprising the steps of:

- (a) providing a structure including framing members and a sheath forming at least one cavity having a known depth;
- (b) covering an inner side of the cavity with netting;
- (c) filling the cavity with insulation;
- (d) holding a sensor in a substantially fixed position relative to the insulation in the cavity;

(e) measuring force exerted on the sensor by the insulation;
(f) using the force to determine the density of the insulation; and
(g) determining the thermal resistance of the insulation from the known cavity depth and insulation density.

11. The method of claim 10, further comprising the step of supporting the sensor within the cavity.

12. The method of claim 10, further comprising the step of providing a fixture for supporting the sensor outside the cavity.

13. The method of claim 12, wherein the fixture is in the form of a plate that supports the sensor against the netting and insulation.

14. The method of claim 10, wherein the sensor is a force transducer.

15. The method of claim 10, wherein the sensor is an air cup that is pressed against the netting and insulation and the method further comprises the step of introducing air into the air cup at a given source pressure, and wherein the measuring step (e) comprises the step of measuring air pressure in the air cup, the pressure being directly related to the density of the insulation behind the netting.